

## LISTING OF THE CLAIMS

The following listing, if entered, replaces all prior versions of the claims in the present application.

1. (Currently Amended) A method for communicating comprising:  
controlling a user interface presented by a web browser comprising:  
  
~~causing a web server to push an asynchronous message to the web browser in response to an incoming event, wherein the incoming event comprises a request to establish communication with a user; the web browser presents a user interface change in response to the asynchronous message, and the incoming event is received by a communication server; establishing a persistent connection between the web browser and a web server;~~  
causing the web browser to provide a wait request to the web server  
wherein,  
~~the web browser waits for an asynchronous message and is capable of concurrently performing other tasks;~~  
the wait request specifies a target process of a plurality of processes,  
the processes are configured to generate asynchronous messages,  
the wait request is associated with the web browser, and  
the wait request enables the web server to push the asynchronous message to the web browser;  
~~causing the web server to push the asynchronous message to the web browser in response to an incoming event, wherein the web browser presents a user interface change in response to the asynchronous message;~~  
identifying a source of the asynchronous message, wherein

- the source of the asynchronous message is the target process; and associating the wait request with the source, wherein the associating identifies the web browser as a recipient of the asynchronous message.
2. **(Cancelled)**
  3. **(Cancelled)**
  - 4-5. (Cancelled)
  6. (Previously Presented) The method of claim 1 further comprising: generating the asynchronous message, the asynchronous message identifying the wait request, wherein the identifying identifies the web browser as a recipient of the asynchronous message; and providing the asynchronous message to the web server.
  7. (Original) The method of claim 6 wherein causing the web browser to provide the wait request comprises: downloading requesting instructions to the web browser, wherein the downloading causes the web browser to execute the requesting instructions.
  8. (Original) The method of claim 6 further comprising: storing a reference to a callback function with information from the wait request; and using the reference to call the callback function when the asynchronous message is provided to the web server, wherein the callback function pushes the asynchronous message.
  9. (Original) The method of claim 8 further comprising: providing the callback function with context information, the context information identifying the web browser.
  10. (Original) The method of claim 6 further comprising:

- assigning the wait request to a connection between the web server and a business process server; and  
listening to the connection for the asynchronous message.
11. (Original) The method of claim 6 further comprising:  
assigning the wait request to a session between the web server and a business process server, the session being associated with a connection; and  
listening to the connection for the asynchronous message for the session.
12. (Original) The method of claim 1 wherein causing the web server to push the asynchronous message comprises:  
calling a callback function associated with the web browser when the asynchronous message is received, wherein the callback function pushes the asynchronous message.
13. (Original) The method of claim 12 further comprising:  
storing a reference to the callback function; and  
using the reference for calling the callback function.
14. (Original) The method of claim 13 further comprising:  
storing a second reference to context information, the context information identifying the web browser; and  
using the second reference for providing the context information to the callback function.
15. (Previously Presented) The method of claim 1 wherein  
the change in the user interface comprises at least one of a group consisting of the following:  
causing a first user interface object to move to visually capture a user's attention;  
causing a second user interface object to issue a sound to capture the user's attention;  
presenting a screen pop of data; and

- bringing a web browser window to the front of a screen.
16. (Currently Amended) A method for communicating comprising:  
causing a web server to push an asynchronous message to a web browser in  
response to an incoming event, wherein
- the web browser is not blocked from receiving information  
from the web server while the web browser waits for the  
asynchronous message;
- the incoming event comprises a request to establish  
communication with a user;
- the web browser performs an action in response to the  
asynchronous message, and
- the incoming event is received by a communication server;  
causing the web browser to provide a wait request to the web server wherein,
- ~~the wait request specifies a target process of a plurality of processes;~~  
~~the processes are configured to generate asynchronous messages;~~  
the wait request is associated with the web browser, and  
the wait request enables the web server to push the asynchronous message  
to the web browser;
- identifying a source of the asynchronous message, ~~wherein~~  
~~the source of the asynchronous message is the target process;~~ and  
associating the wait request with the source, wherein the associating identifies the  
web browser as a recipient of the asynchronous message.
17. (Currently Amended) The method of claim 16 wherein  
the asynchronous message includes an action instruction to cause the web browser  
to perform the action; ~~and~~  
the wait request further specifies a target process of a plurality of processes,  
wherein the processes are configured to generate asynchronous  
messages.
18. (Original) The method of claim 16 wherein the performing the action comprises

- performing at least one of a group consisting of the following:
- causing a first user interface object to move to visually capture a user's attention;
  - causing a second user interface object to issue a sound to capture the user's attention;
  - presenting a screen pop of data; and
  - bringing a web browser window to front of screen.
19. **(Currently Amended)** A method for communicating comprising:
- establishing a first connection between a web browser and a web server;
  - establishing a second connection between the web server and a business process server;
  - controlling a user interface presented by the web browser comprising:
    - registering the web browser with the business process server;
    - providing the web server with an asynchronous message to push to the web browser, the providing being performed by the business process server and the providing being performed in response to an incoming event, wherein
  - the web browser waits for the asynchronous message and is capable of concurrently performing other tasks, and**
    - the incoming event comprises a request to establish communication with a user; and
    - causing the web server to push the asynchronous message to the web browser, **wherein the web browser performs a user interface change in response to the asynchronous message;**  
**wherein the web browser performs a user interface change in response to the asynchronous message;**  
**the incoming event is received by a communication server;**  
causing the web browser to provide a wait request to the web server wherein,
      - the wait request specifies a target process of a plurality of processes,
      - the processes are configured to generate asynchronous messages,
      - the wait request is associated with the web browser, and

- the wait request enables the web server to push the asynchronous message to the web browser;
- identifying a source of the asynchronous message, wherein
- the source of the asynchronous message is the target process; and
- associating the wait request with the source, wherein the associating identifies the web browser as a recipient of the asynchronous message.
20. **(Currently Amended)** A method for communicating comprising:
- controlling a user interface presented by a web browser comprising:
- registering the web browser as available to receive an asynchronous message, wherein
- the web browser waits for the asynchronous message and is capable of concurrently performing other tasks, and
- the web browser is not blocked waiting for the asynchronous message;
- causing a web server to push the asynchronous message to the web browser in response to an incoming event, wherein
- the incoming event comprises a request to establish communication with a user;
- the web browser presents a user interface change in response to the asynchronous message, and
- the incoming event is received by a communication server;
- causing the web browser to provide a wait request to the web server wherein,
- the wait request specifies a target process of a plurality of processes,
- the processes are configured to generate asynchronous messages, the wait request is associated with the web browser, and
- the wait request enables the web server to push the asynchronous message to the web browser;
- identifying a source of the asynchronous message, wherein
- the source of the asynchronous message is the target process; and

- associating the wait request with the source, wherein the associating identifies the web browser as a recipient of the asynchronous message.
21. **(Currently Amended)** A method for communicating comprising:  
controlling a user interface presented by a web browser comprising:  
causing the web browser to provide a wait request to the a web server  
wherein,  
the wait request specifies a target process of a plurality of  
processes,  
the processes are configured to generate asynchronous messages,  
the wait request is associated with the web browser, and  
the wait request enables the web server to push the asynchronous  
message to the web browser;  
identifying a source of the asynchronous message, wherein  
the source of the asynchronous message is the target process; and  
associating the wait request with the source, wherein the associating  
identifies the web browser as a recipient of the asynchronous  
message;  
pushing the asynchronous message to the web browser in response to an  
incoming event, wherein  
the web browser waits for the asynchronous message and is  
capable of concurrently performing other tasks;  
the incoming event comprises a request to establish  
communication with a user;  
the browser presents a user interface change in response to the  
asynchronous message, and  
the incoming event is received by a communication server.
22. **(Currently Amended)** A method for communicating comprising:  
controlling a user interface presented by a web browser comprising:  
causing the web browser to provide a wait request to a web server,

wherein

the wait request specifies a target process of a plurality of processes,

the processes are configured to generate asynchronous messages, the wait request is associated with the web browser and the wait request enables the web server to push the asynchronous message to the web browser;

identifying a source of the asynchronous message, wherein

the source of the asynchronous message is the target process; and generating the asynchronous message, the asynchronous message

identifying the web browser as a recipient of the asynchronous message, the generating being performed by the target;

providing the asynchronous message to the web server; and causing the web server to push the asynchronous message to the web

browser in response to an incoming event, wherein

**the web browser is not blocked from receiving information**

**from the web server while the web browser waits for the asynchronous message;**

the incoming event comprises a request to establish communication with a user;

the web browser presents a user interface change in response to the asynchronous message; and

the incoming event is received by a communication server.

23. (Currently Amended) A computer program product comprising:  
controlling instructions to control a user interface presented by a web browser comprising:  
pushing instructions to cause a web server to push an asynchronous message to the web browser in response to an incoming event,  
wherein  
**the web browser waits for the asynchronous message and is capable of concurrently performing other tasks;**

the incoming event comprises a request to establish communication with a user;

the web browser presents a user interface change in response to the asynchronous message, and

the incoming event is received by a communication server;

providing instructions to cause the web browser to provide a wait request to the web server wherein,

the wait request specifies a target process of a plurality of processes,

the processes are configured to generate asynchronous messages,

the wait request is associated with the web browser, and

the wait request enables the web server to push the asynchronous message to the web browser;

identifying instructions to identify a source of the asynchronous message, wherein

the source of the asynchronous message is the target process; and

associating instructions to associate the wait request with the source,

wherein the associating identifies the web browser as a recipient of the asynchronous message; and

a computer-readable medium for storing the controlling instructions, the pushing instructions, the providing instructions, the identifying instructions, and the associating instructions.

24. (Cancelled)
25. (Original) The computer program product of claim 23 further comprising:  
request providing instructions to cause the web browser to provide a wait request to the web server, the wait request being associated with the web browser;  
generating instructions to generate the asynchronous message, the asynchronous message identifying the wait request, wherein the identifying identifies the web browser as a recipient of the asynchronous message; and  
message providing instructions to provide the asynchronous message to the web

- server;
- wherein the computer-readable medium further stores the request providing instructions, the generating instructions, and the message providing instructions.
26. (Original) The computer program product of claim 25 further comprising:  
storing instructions to store a reference to a callback function with information from the wait request; and  
using instructions to use the reference to call the callback function when the asynchronous message is provided to the web server, wherein the callback function pushes the asynchronous message;  
wherein the computer-readable medium further stores the storing instructions and the using instructions.
27. (Original) The computer program product of claim 26 further comprising:  
context providing instructions to provide the callback function with context information, the context information identifying the web browser;  
wherein the computer-readable medium further stores the context providing instructions.
28. (Original) The computer program product of claim 25 further comprising:  
assigning instructions to assign the wait request to a connection between the web server and a business process server; and  
listening instructions to listen to the connection for the asynchronous message;  
wherein the computer-readable medium further stores the assigning instructions and the listening instructions.
29. (Original) The computer program product of claim 23 wherein  
the pushing instructions comprise:  
calling instructions to call a callback function associated with the web browser when the asynchronous message is received, wherein the callback function pushes the asynchronous message;
- and

- the computer-readable medium further stores the calling instructions.
30. (Original) The computer program product of claim 29 further comprising:  
reference storing instructions to store a reference to the callback function; and  
reference using instructions to use the reference for calling the callback function;  
wherein the computer-readable medium further stores the reference storing  
instructions and the reference using instructions.
31. (Original) The computer program product of claim 30 further comprising:  
context storing instructions to store a second reference to context information, the  
context information identifying the web browser; and  
context using instructions to use the second reference for providing the context  
information to the callback function;  
wherein the computer-readable medium further stores the context storing  
instructions and the context using instructions.
32. (Previously Presented) The computer program product of claim 23 further  
comprising:  
user interface changing instructions configured to perform at least one of a group  
consisting of the following:  
cause a first user interface object to move to visually capture a user's  
attention;  
cause a second user interface object to issue a sound to capture the user's  
attention;  
present a screen pop of data; and  
bring a web browser window to the front of a screen;  
wherein the computer-readable medium further stores the user interface changing  
instructions.
33. (**Currently Amended**) A computer program product comprising:  
controlling instructions to control a user interface presented by a web browser  
comprising:  
registering instructions to register the web browser as available to receive

an asynchronous message, wherein  
**the web browser waits for the asynchronous message and is capable of concurrently performing other tasks; and**  
the web browser is not blocked waiting for the asynchronous message; **and**  
pushing instructions to cause a web server to push the asynchronous message to the web browser in response to an incoming event, wherein  
the incoming event comprises a request to establish communication with a user;  
the web browser presents a user interface change in response to the asynchronous message, and  
the incoming event is received by a communication server;  
providing instructions to cause the web browser to provide a wait request to the web server wherein,  
the wait request specifies a target process of a plurality of processes,  
the processes are configured to generate asynchronous messages, the wait request is associated with the web browser, and the wait request enables the web server to push the asynchronous message to the web browser;  
identifying instructions to identify a source of the asynchronous message, wherein  
the source of the asynchronous message is the target process; and associating instructions to associate the wait request with the source, wherein the associating identifies the web browser as a recipient of the asynchronous message; and  
a computer-readable medium for storing the controlling instructions, the registering instructions, the pushing instructions, the providing instructions, the identifying instructions, and the associating instructions.

34. **(Currently Amended)** A computer system comprising:  
a processor;  
a memory, the memory storing instructions for executing on the processor, the  
instructions comprising:  
controlling instructions to control a user interface presented by a web  
browser comprising:  
pushing instructions to cause a web server to push an asynchronous  
message to the web browser in response to an incoming  
event, wherein  
the incoming event comprises a request to establish  
communication with a user,  
the web browser waits for the asynchronous message  
and is capable of concurrently performing other  
tasks;  
the web browser presents a user interface change in  
response to the asynchronous message, and  
the incoming event is received by a communication server;  
providing instructions to cause the web browser to provide a wait  
request to the web server wherein,  
the wait request specifies a target process of a plurality of  
processes,  
the processes are configured to generate asynchronous  
messages,  
the wait request is associated with the web browser, and  
the wait request enables the web server to push the  
asynchronous message to the web browser;  
identifying instructions to identify a source of the asynchronous  
message, wherein  
the source of the asynchronous message is the target  
process; and  
associating instructions to associate the wait request with the

source, wherein the associating identifies the web browser as a recipient of the asynchronous message.

35. (Cancelled)
36. (Original) The computer system of claim 34 wherein the instructions further comprise:
  - request providing instructions to cause the web browser to provide a wait request to the web server, the wait request being associated with the web browser;
  - generating instructions to generate the asynchronous message, the asynchronous message identifying the wait request, wherein the identifying identifies the web browser as a recipient of the asynchronous message; and
  - message providing instructions to provide the asynchronous message to the web server.
37. (Original) The computer system of claim 36 wherein the instructions further comprise:
  - storing instructions to store a reference to a callback function with information from the wait request; and
  - using instructions to use the reference to call the callback function when the asynchronous message is provided to the web server, wherein the callback function pushes the asynchronous message.
38. (Original) The computer system of claim 37 wherein the instructions further comprise:
  - context providing instructions to provide the callback function with context information, the context information identifying the web browser.
39. (Original) The computer system of claim 36 wherein the instructions further comprise:
  - assigning instructions to assign the wait request to a connection between the web server and a business process server; and
  - listening instructions to listen to the connection for the asynchronous message.

40. (Original) The computer system of claim 34 wherein the pushing instructions comprise:  
calling instructions to call a callback function associated with the web browser  
when the asynchronous message is received, wherein the callback function pushes the asynchronous message.
41. (Original) The computer system of claim 40 wherein the instructions further comprise:  
reference storing instructions to store a reference to the callback function; and  
reference using instructions to use the reference for calling the callback function.
42. (Original) The computer system of claim 41 wherein the instructions further comprise:  
context storing instructions to store a second reference to context information, the context information identifying the web browser; and  
context using instructions to use the second reference for providing the context information to the callback function.
43. (Previously Presented) The computer system of claim 34 wherein the instructions further comprise:  
user interface changing instructions configured to perform at least one of a group consisting of the following:  
cause a first user interface object to move to visually capture a user's attention;  
cause a second user interface object to issue a sound to capture the user's attention;  
present a screen pop of data; and  
bring a web browser window to the front of a screen.
44. (**Currently Amended**) A computer system comprising:  
a processor;  
a memory, the memory storing instructions for executing on the processor, the instructions comprising:

controlling instructions to control a user interface presented by a web browser comprising:

registering instructions to register the web browser as available to receive an asynchronous message, wherein

the web browser waits for the asynchronous message and is capable of concurrently performing other tasks, and

the web browser is not blocked waiting for the asynchronous message;

pushing instructions to cause a web server to push the asynchronous message to the web browser in response to an incoming event, wherein

the incoming event comprises a request to establish communication with a user;

the web browser presents a user interface change in response to the asynchronous message, and

the incoming event is received by a communication server.

providing instructions to cause the web browser to provide a wait request to the web server wherein,

the wait request specifies a target process of a plurality of processes,

the processes are configured to generate asynchronous messages, the wait request is associated with the web browser, and

the wait request enables the web server to push the asynchronous message to the web browser;

identifying instructions to identify a source of the asynchronous message, wherein

the source of the asynchronous message is the target process; and

associating instructions to associate the wait request with the source, wherein the associating identifies the web browser as a recipient of the asynchronous message.

45. (Currently Amended) A system comprising:

a client computer comprising:

a web browser, wherein the web browser presents a user interface;

a server computer coupled to the client computer, wherein the server computer comprises

controlling means for controlling the user interface presented by the web browser,

pushing means for causing a web server to push an asynchronous message to the web browser in response to an incoming event, wherein

**the web browser waits for the asynchronous message and is capable of concurrently performing other tasks;**

the incoming event comprises a request to establish communication with a user;

the web browser presents a user interface change in response to the asynchronous message, and

the incoming event is received by a communication server, identifying means for identifying a source of the asynchronous message, wherein

the source of the asynchronous message is a target process of a plurality of processes, and

the processes are configured to generate asynchronous messages,

associating means for associating a wait request with the source, wherein the associating identifies the web browser as a recipient of the asynchronous message, and

the client computer comprises

providing means for causing the web browser to provide the wait request to the web server, wherein

the wait request specifies the target process,

the wait request is associated with the web browser,

and

the wait request enables the web server to push the asynchronous message to the web browser.

46. (Cancelled)

47. (Previously Presented) The system of claim 45, the server computer further comprising:

generating means for generating the asynchronous message, the asynchronous message identifying the wait request, wherein the identifying identifies the web browser as a recipient of the asynchronous message; and message providing means for providing the asynchronous message to the web server.

48. (Previously Presented) The system of claim 47, the server computer further comprising:

storing means for storing a reference to a callback function with information from the wait request; and using means for using the reference to call the callback function when the asynchronous message is provided to the web server, wherein the callback function pushes the asynchronous message.

49. (Previously Presented) The system of claim 48, the client computer further comprising:

context providing means for providing the callback function with context information, the context information identifying the web browser.

50. (Previously Presented) The system of claim 47, the server computer further comprising:

assigning means for assigning the wait request to a connection between the web server and a business process server; and listening means for listening to the connection for the asynchronous message.

51. (Original) The system of claim 45 wherein the pushing means comprise:  
calling means for calling a callback function associated with the web browser  
when the asynchronous message is received, wherein the callback function  
pushes the asynchronous message.
52. (Previously Presented) The system of claim 51, the server computer further comprising:  
reference storing means for storing a reference to the callback function; and  
reference using means for using the reference for calling the callback function.
53. (Previously Presented) The system of claim 52, the server computer further comprising:  
context storing means for storing a second reference to context information, the  
context information identifying the web browser; and  
context using means for using the second reference for providing the context  
information to the callback function.
54. (Previously Presented) The system of claim 45, the client computer further comprising:  
user interface changing means configured to perform at least one of a group  
consisting of the following:  
cause a first user interface object to move to visually capture a user's  
attention;  
cause a second user interface object to issue a sound to capture the user's  
attention;  
present a screen pop of data; and  
bring a web browser window to front of screen.
55. (Currently Amended) A system comprising:  
a client computer comprising:  
a web browser, wherein the web browser presents a user interface;  
a server computer coupled to the client computer, wherein the server computer  
comprises

controlling means for controlling a user interface presented by a web browser,

registering means for registering the web browser as available to receive an asynchronous message, wherein

**the web browser waits for the asynchronous message and is capable of concurrently performing other tasks, and**

the web browser is not blocked waiting for the asynchronous message, and

pushing means for causing a web server to push the asynchronous message to the web browser in response to an incoming event, wherein

the incoming event comprises a request to establish communication with a user;

the web browser presents a user interface change in response to the asynchronous message, and

the incoming event is received by a communication server, identifying means for identifying a source of the asynchronous message, wherein

the source of the asynchronous message is a target process of a plurality of processes, and

the processes are configured to generate asynchronous messages,

associating means for associating a wait request with the source, wherein

the associating identifies the web browser as a recipient of the asynchronous message, and

the client computer comprises

providing means for causing the web browser to provide the wait request to the web server, wherein

the wait request specifies the target process,

the wait request is associated with the web browser, and

the wait request enables the web server to push the

asynchronous message to the web browser.

56. (Cancelled)

57. (Cancelled)

58. (Previously Presented) A system comprising:  
a controlling module to control a user interface presented by a web browser  
comprising:  
a pushing module to cause a web server to push an asynchronous message  
to the web browser in response to an incoming event, wherein  
the web browser is not blocked from receiving information from  
the web server while the web browser waits for the  
asynchronous message;  
the incoming event comprises a request to establish  
communication with a user;  
the web browser presents a user interface change in response to the  
asynchronous message, and  
the incoming event is received by a communication server;  
a request providing module to cause the web browser to provide a wait request to  
the web server, wherein  
the wait request specifies a target process of a plurality of processes,  
the processes are configured to generate asynchronous messages,  
the wait request is associated with the web browser, and  
the wait request enables the web server to push the asynchronous message  
to the web browser;  
an identifying module to identify a source of the asynchronous message wherein  
the source of the asynchronous message is the target process;  
an associating module to associate the wait request with the source, wherein the  
associating identifies the web browser as a recipient of the asynchronous  
message; and  
a computer readable storage medium configured to store the controlling module,

- pushing module, request providing module, identifying module, and associating module.
59. (Cancelled)
60. (Previously Presented) The system of claim 58 further comprising:  
a generating module to generate the asynchronous message, the asynchronous message identifying the wait request, wherein the identifying identifies the web browser as a recipient of the asynchronous message; and  
a message providing module to provide the asynchronous message to the web server, wherein  
the computer readable storage medium is configured to store the generating module and message providing module.
61. (Previously Presented) The system of claim 60 further comprising:  
a storing module to store a reference to a callback function with information from the wait request; and  
a using module to use the reference to call the callback function when the asynchronous message is provided to the web server, wherein the callback function pushes the asynchronous message, wherein  
the computer readable storage medium is configured to store the storing module and using module.
62. (Previously Presented) The system of claim 61 further comprising:  
a context providing module to provide the callback function with context information, the context information identifying the web browser, wherein  
the computer readable storage medium is configured to store the context providing module.
63. (Previously Presented) The system of claim 60 further comprising:  
an assigning module to assign the wait request to a connection between the web server and a business process server; and  
a listening module to listen to the connection for the asynchronous message,

- wherein
- the computer readable storage medium is configured to store the assigning module and listening module.
64. (Previously Presented) The system of claim 58 wherein the pushing means comprise:
- a calling module to call a callback function associated with the web browser when the asynchronous message is received, wherein the callback function pushes the asynchronous message, wherein
- the computer readable storage medium is configured to store the calling module.
65. (Previously Presented) The system of claim 64 further comprising:
- a reference storing module to store a reference to the callback function; and
- a reference using module to use the reference for calling the callback function,
- wherein
- the computer readable storage medium stores the reference storing module and the reference using module.
66. (Previously Presented) The system of claim 65 further comprising:
- a context storing module to store a second reference to context information, the context information identifying the web browser; and
- a context using module to use the second reference for providing the context information to the callback function, wherein
- the computer readable storage medium stores the context storing module and the context using module.
67. (Previously Presented) The system of claim 58 further comprising:
- a user interface changing module configured to perform at least one of a group consisting of the following:
- cause a first user interface object to move to visually capture a user's attention;
- cause a second user interface object to issue a sound to capture the user's attention;

- present a screen pop of data; and  
bring a web browser window to front of screen, wherein  
the computer readable storage medium is configured to store the user interface  
changing module.
68. (Currently Amended) The method of claim 1 ~~further comprising: wherein the opening persistent connection comprises a~~ hypertext transfer protocol (HTTP) connection between the web browser and the web server when a user logs in; and  
~~closing the persistent HTTP connection between the web browser and the web server in response to the web server pushing the asynchronous message to the web browser.~~
69. (Previously Presented) The method of claim 1 further comprising:  
storing the wait request in memory;  
removing the wait request from memory in response to pushing the asynchronous message.